



**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

April 28, 2022

Mr. Britt Lusk, City Manager  
City of Tucumcari  
Post Office Box 1188  
Tucumcari, New Mexico 88401

**RE: Draft Discharge Permit Renewal, DP-1700, City of Tucumcari Wastewater Treatment Facility**

Dear Britt Lusk:

The New Mexico Environment Department (NMED) hereby provides notice to the City of Tucumcari of the proposed approval of Ground Water Discharge Permit Renewal, DP-1700, (copy enclosed), pursuant to Subsection H of 20.6.2.3108 NMAC. NMED will publish notice of the availability of the draft Discharge Permit in the near future for public review and comment and will forward a copy of that notice to you.

Prior to making a final ruling on the proposed Discharge Permit, NMED will allow 30 days from the date the public notice is published in the newspaper for any interested party, including the Discharge Permit applicant, i.e., yourself, to submit written comments and/or a request a public hearing. A hearing request shall set forth the reasons why a hearing is requested. NMED will hold a hearing in response to a timely hearing request if the NMED Secretary determines there is substantial public interest in the proposed Discharge Permit.

Please review the enclosed draft Discharge Permit carefully. Please be aware that this Discharge Permit may contain conditions that require the permittee to implement operational, monitoring or closure actions by a specified deadline.

Please submit written comments or a request for hearing to my attention at the address above or via email to [avery.young@state.nm.us](mailto:avery.young@state.nm.us). If NMED does not receive written comments or a request for hearing during the public comment period, the draft Discharge Permit will become final.

Thank you for your cooperation during the review process. Feel free to contact me with any questions at (505) 699-8564.

Sincerely,

Avery Young  
Environmental Scientist

SCIENCE | INNOVATION | COLLABORATION | COMPLIANCE

Ground Water Quality Bureau | 1190 Saint Francis Drive, PO Box 5469, Santa Fe, New Mexico 87502-5469

Telephone (505) 827-2900 | [www.env.nm.gov/gwqb/](http://www.env.nm.gov/gwqb/)

**Britt Lusk**

April 28, 2022

Page 2 of 2

Encl: Draft Discharge Permit Renewal, DP-1700

cc: Calvin Henson, Wastewater Superintendent, City of Tukumcari,  
chanson@cityoftukumcari.com



**NEW MEXICO**  
**ENVIRONMENT DEPARTMENT**

Ground Water Quality Bureau

1190 Saint Francis Drive / PO Box 5469

Santa Fe, NM 87502-5469

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***Draft: April 28, 2022***

**GROUND WATER QUALITY BUREAU**  
**DISCHARGE PERMIT**  
**Issued under 20.6.2 NMAC**

**Facility Name:** City of Tucumcari Wastewater Treatment Facility  
**Discharge Permit Number:** DP-1700  
**Facility Location:** 1700 North Rock Island  
Tucumcari, New Mexico 88401

**County:** Quay

**Permittee:** City of Tucumcari  
**Mailing Address:** Britt Lusk, City Manager  
P.O. Box 1188  
Tucumcari, New Mexico 88401

**Facility Contact:** Calvin Henson, Wastewater Superintendent  
**Telephone Number/Email:** (575) 461-4542/chenson@cityoftucumcari.com

**Permitting Action:** Renewal

**Permit Effective Date:** DATE  
**Permit Expiration Date:** DATE

**NMED Permit Contact:** Avery Young  
**Telephone Number/Email:** (505) 699-8564/avery.young@state.nm.us

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**JUSTIN D. BALL**  
**Chief, Ground Water Quality Bureau**  
**New Mexico Environment Department**

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Date

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**ATTACHMENTS**

- Discharge Permit Summary
- Groundwater Discharge Permit Guidance for Synthetically Lined Lagoons – Liner Material and Site Preparation, Revision 0.0, May 2007
- New Mexico Environment Department Ground Water Quality Bureau Monitoring Well Construction and Abandonment Guidelines, Revision 1.1, March 2011 (Monitoring Well Guidance)

## I. INTRODUCTION

The New Mexico Environment Department (NMED) issues this groundwater discharge permit Renewal and Modification (Discharge Permit or DP-1700) to the City of Tucumcari (Permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Ground and Surface Water Protection Regulations, 20.6.2 NMAC.

NMED's purpose in issuing this Discharge Permit, and in imposing the requirements and conditions specified herein, is to control the discharge of water contaminants from the City of Tucumcari Wastewater Treatment Facility (Facility) in order to protect groundwater and those segments of surface water gaining from groundwater inflow for present and potential future use as domestic and agricultural water supply and other uses, and to protect public health. It is NMED's determination in issuing this Discharge Permit that the Permittee has met the requirements of Subsection C of 20.6.2.3109 NMAC. The Permittee is responsible for complying with the terms and conditions of this Discharge Permit pursuant to Section 20.6.2.3104 NMAC; failure to do so may result in enforcement action by NMED (20.6.2.1220 NMAC).

Described below are the activities that produce the discharge, the location of the discharge, and the quantity, quality and flow characteristics.

A wastewater treatment facility (WWTF), consisting of an activated sludge treatment system with UV disinfection, receives and treats at a volume of up to 1.2 million gallons per day (MGD). Treated wastewater discharges to Breen's Pond in accordance with NPDES Permit NM0020711 and this Discharge Permit. Treated wastewater (reclaimed domestic wastewater) discharges as follows: for wash, process, and irrigation water at the Facility and for temporary uses in and around the City of Tucumcari including, but not limited to, dust control, wildlife watering, and construction purposes.

The Facility also transfers reclaimed domestic wastewater for reuses purposes to other facilities that are permitted by NMED to receive and discharge reclaimed domestic wastewater under separate discharge permits.

The discharge may contain water contaminants or toxic pollutants elevated above the standards of Section 20.6.2.3103 NMAC and is not subject to the exemption at Subsection 20.6.2.3105.A NMAC.

The Facility is located at 1700 North Rock Island Street, Tucumcari, in Sections 11, Township 11N, Range 30E, Quay County. A discharge at the Facility is most likely to affect groundwater at a depth of approximately 20 feet and having a pre-discharge total dissolved solids (TDS) concentration of approximately 352 milligrams per liter.

NMED issued the original Discharge Permit to the Permittee on September 11, 2009, and subsequently modified the Permit on April 6, 2012, and renewed the Permit on March 9, 2015. The application (i.e., discharge plan) associated with this Discharge Permit consists of the materials submitted by the Permittee dated October 23, 2019, and materials contained in the administrative record prior to issuance of this Discharge Permit.

The Permittee shall manage the discharge in accordance with all conditions and requirements of this Discharge Permit.

NMED reserves the right to require a Discharge Permit modification in the event NMED determines that the Permittee is or may be violating, or is likely to violate in the future, the requirements of 20.6.2 NMAC or the standards of Section 20.6.2.3103 NMAC. NMED reserves this right pursuant to Section 20.6.2.3109 NMAC. An NMED requirement to modify the Discharge Permit may result from a determination by the department that structural controls and/or management practices approved under this Discharge Permit are insufficiently protective of groundwater quality and human health. NMED reserves the right to require the Permittee implement abatement of water pollution and remediate groundwater quality.

NMED issuance of this Discharge Permit does not relieve the Permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

This Discharge Permit may use the following acronyms and abbreviations.

Abbreviation	Explanation	Abbreviation	Explanation
BOD <sub>5</sub>	biochemical oxygen demand (5-day)	NMED	New Mexico Environment Department
CAP	Corrective Action Plan	NMSA	New Mexico Statutes Annotated
CFR	Code of Federal Regulations	NO <sub>3</sub> -N	nitrate-nitrogen
CFU	colony forming unit	NTU	nephelometric turbidity units
Cl	chloride	QA/QC	Quality Assurance/Quality Control
EPA	United States Environmental Protection Agency	TDS	total dissolved solids
Gpd	gallons per day	TKN	total Kjeldahl nitrogen
LAA	land application area	total nitrogen	= TKN + NO <sub>3</sub> -N
LADS	Land Application Data Sheet(s)	TRC	total residual chlorine
mg/L	milligrams per liter	TSS	total suspended solids
mL	milliliters	WQA	New Mexico Water Quality Act
MPN	most probable number	WQCC	Water Quality Control Commission

Abbreviation	Explanation	Abbreviation	Explanation
NMAC	New Mexico Administrative Code	WWTF	Wastewater Treatment Facility

## II. FINDINGS

In issuing this Discharge Permit, NMED finds the following.

1. The Permittee is discharging effluent or leachate from the Facility so that such effluent or leachate may move into groundwater of the State of New Mexico that has an existing concentration of 10,000 mg/L or less of TDS, within the meaning of Subsection A of 20.6.2.3101 NMAC, without exceeding standards of 20.6.2.3103 NMAC for any water contaminant.
2. The Permittee is discharging effluent or leachate from the Facility directly or indirectly into groundwater pursuant to this Discharge Permit and Sections 20.6.2.3000 through 20.6.2.3114 NMAC.
3. The discharge from the Facility is not subject to any of the exemptions of Section 20.6.2.3105 NMAC.

## III. AUTHORIZATION TO DISCHARGE

The Permittee is responsible for ensuring that discharges authorized by this Discharge Permit are consistent with the terms and conditions herein pursuant to 20.6.2.3104 NMAC.

This Discharge Permit authorizes the Permittee to receive and treat up to 1.2 MGD of domestic wastewater using a WWTF consisting of an activated sludge treatment system with UV disinfection. This Discharge Permit also authorizes the Permittee to discharge treated wastewater to Breen's Pond in accordance with NPDES Permit NM0020711 and this Discharge Permit. This Discharge Permit authorizes the Permittee to discharge reclaimed domestic wastewater (Class 1B) as follows:

- To two synthetically lined storage impoundments located at the Facility;
- For wash, process, and irrigation water at the Facility;
- For temporary uses in and around the City of Tucumcari including, but not limited to, dust control, wildlife watering, and construction purposes; and
- For transfer for reuse to other facilities operating under separate discharge permits.

[20.6.2.3104 NMAC, Subsection C of 20.6.2.3106 NMAC, Subsection D of 20.6.2.3109 NMAC]

**IV. CONDITIONS**

NMED issues this Discharge Permit for the discharge of water contaminants subject to the following conditions.

**A. OPERATIONAL PLAN**

#	Terms and Conditions
1.	The Permittee shall implement the following operational plan to ensure compliance with Title 20, Chapter 6, Parts 2 and 4 NMAC.  [Subsection C of 20.6.2.3109 NMAC]
2.	The Permittee shall operate in a manner that does not violate standards and requirements of Sections 20.6.2.3101 and 20.6.2.3103 NMAC.  [20.6.2.3101 NMAC, 20.6.2.3103 NMAC, Subsection C of 20.6.2.3109 NMAC]

***Operational Actions with Implementation Deadlines***

#	Terms and Conditions
3.	<p>A minimum of 90 days prior to construction of the 4-million-gallon Effluent Storage Pond, the Permittee shall submit final construction plans and specifications for NMED’s review of the proposed 4-million-gallon Effluent Storage Pond. The construction plans and specifications shall bear the seal and signature of a licensed New Mexico professional engineer (pursuant to New Mexico Engineering and Surveying Practice Act and the rules promulgated under that authority) and shall include the supporting design calculations.</p> <p>The submitted documentation shall include the following elements.</p> <ul style="list-style-type: none"> <li>a) Details for the construction of the storage impoundment and a liner consistent with the attachment titled <i>Groundwater Discharge Permit Guidance for Synthetically Lined Lagoons – Liner Material and Site Preparation</i>, Revision 0.0, May 2007.</li> <li>b) Wastewater system component(s) design, e.g., lift stations, valves, transfer lines, process units and associated details;</li> <li>c) Specifications for all equipment, materials and installation procedures the Permittee will use in the construction of the wastewater system.</li> <li>d) Fences design detail around the 4-million-gallon Effluent Storage Pond.</li> </ul> <p>Prior to constructing the 4-million-gallon Effluent Storage Pond and its associated components, the Permittee shall obtain written verification from NMED that the plans and specifications meet the requirements of this Discharge Permit.</p>

#	Terms and Conditions
	<p>[Subsections A and C of 20.6.2.1202 NMAC, Subsection C of 20.6.2.3106 NMAC, Subsection C of 20.6.2.3107 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]</p>
4.	<p>Prior to discharging to the 4-million-gallon Effluent Storage Pond, the Permittee shall complete construction in accordance with the final construction plans and specifications required by this Discharge Permit. The Permittee shall notify NMED at least five working days prior to commencement of construction to allow NMED personnel to be onsite for inspection.</p> <p>[Subsections A and C of 20.6.2.1202 NMAC, Subsection C of 20.6.2.3109 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]</p>
5.	<p>Within 30 days of completing construction of the 4-million-gallon Effluent Storage Pond, the Permittee shall submit record drawings to NMED that bear the seal and signature of a licensed New Mexico professional engineer (pursuant to the New Mexico Engineering and Surveying Practice Act and the rules promulgated under that authority) for the constructed 4-million-gallon Effluent Storage Pond.</p> <p>[Subsections A and C of 20.6.2.1202 NMAC, Subsection C of 20.6.2.3109 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]</p>
6.	<p>Prior to transferring reclaimed domestic wastewater to a newly authorized reuse end user for the first time, the Permittee shall provide written notification to NMED stating the Discharge Permit number of the newly authorized end user, the date the transfer is to commence, and the location where the transfer to the recipient is to occur.</p> <p>[Subsection H of 20.6.2.3109 NMAC]</p>
7.	<p>Within 60 days following the issuance date of this Discharge Permit (<b>by DATE</b>), the Permittee shall measure the thickness of the settled solids in existing 3-million-gallon Effluent Storage Pond. The Permittee shall report the results of the solids thickness measurements to NMED in the next required periodic monitoring report.</p> <p>The Permittee shall measure the thickness of settled solids in accordance with the following procedure.</p> <ol style="list-style-type: none"> <li>a) The division of the total surface area of the treatment impoundment into nine equal sub-areas.</li> <li>b) One measurement (to the nearest half foot) using a settled solids measurement device (e.g., core sampler) per sub-area.</li> <li>c) Calculation of the average of the nine measurements.</li> </ol>

#	Terms and Conditions
	<p>In the event that the measured settled solids exceed one-third of the maximum liquid depth in the impoundment, the Permittee shall implement the Contingency Plan set forth in this Discharge Permit.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>

**Operating Conditions**

#	Terms and Conditions															
8.	<p>The Permittee shall ensure that reclaimed domestic wastewater discharged from the UV disinfection unit does not exceed the following discharge limit.</p> <p><b>Total Nitrogen: 15 mg/L</b></p> <p>The Permittee is authorized to discharge reclaimed domestic wastewater with a total nitrogen limit of up to 45 mg/L to the NMSU Agricultural Science Center (DP-1768) on a limited basis for research purposes.</p> <p>[Subsection C of 20.6.2.3109 NMAC]</p>															
9.	<p>The Permittee shall ensure that Class 1B reclaimed domestic wastewater discharged from the UV disinfection system does not exceed the following discharge limits.</p> <table border="1" data-bbox="414 1234 1307 1486"> <thead> <tr> <th data-bbox="414 1234 711 1276"><u>Test</u></th> <th data-bbox="711 1234 1008 1276"><u>30-day Average</u></th> <th data-bbox="1008 1234 1307 1276"><u>Maximum</u></th> </tr> </thead> <tbody> <tr> <td data-bbox="414 1276 711 1354">E. coli bacteria</td> <td data-bbox="711 1276 1008 1354"><b>63 CFU or MPN/100 mL</b></td> <td data-bbox="1008 1276 1307 1354"><b>126 CFU or MPN/100 mL</b></td> </tr> <tr> <td data-bbox="414 1354 711 1402">BOD<sub>5</sub></td> <td data-bbox="711 1354 1008 1402"><b>30 mg/L</b></td> <td data-bbox="1008 1354 1307 1402"><b>45 mg/L</b></td> </tr> <tr> <td data-bbox="414 1402 711 1451">TSS</td> <td data-bbox="711 1402 1008 1451"><b>30 mg/L</b></td> <td data-bbox="1008 1402 1307 1451"><b>45 mg/L</b></td> </tr> <tr> <td data-bbox="414 1451 711 1486">UV Transmissivity</td> <td data-bbox="711 1451 1008 1486"><b>Monitor Only</b></td> <td data-bbox="1008 1451 1307 1486"><b>Monitor Only</b></td> </tr> </tbody> </table> <p>[Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]</p>	<u>Test</u>	<u>30-day Average</u>	<u>Maximum</u>	E. coli bacteria	<b>63 CFU or MPN/100 mL</b>	<b>126 CFU or MPN/100 mL</b>	BOD <sub>5</sub>	<b>30 mg/L</b>	<b>45 mg/L</b>	TSS	<b>30 mg/L</b>	<b>45 mg/L</b>	UV Transmissivity	<b>Monitor Only</b>	<b>Monitor Only</b>
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TSS	<b>30 mg/L</b>	<b>45 mg/L</b>														
UV Transmissivity	<b>Monitor Only</b>	<b>Monitor Only</b>														
10.	<p>The Permittee shall ensure adherence to the following general requirements for above-ground use of reclaimed domestic wastewater.</p> <p>a) The Permittee shall install and maintain signs in English and Spanish at all reuse areas such that they are visible and legible for the term of this Discharge Permit. The Permittee shall post signs at the entrance to reuse areas and at other locations where public exposure to reclaimed domestic wastewater may occur. The signs shall state:  <b>NOTICE: THIS AREA IS IRRIGATED WITH RECLAIMED WASTEWATER - DO NOT DRINK. AVISO: ESTA ÁREA ESTÁ REGADA CON AGUAS NEGRAS RECOBRADAS - NO</b></p>															

#	Terms and Conditions
	<p><b>TOMAR.</b> The Permittee may submit alternate wording and/or graphics to NMED for approval.</p> <ul style="list-style-type: none"> <li>b) Reclaimed domestic wastewater systems shall have no direct or indirect cross connections with public water systems or irrigation wells pursuant to the latest revision of the New Mexico Plumbing Code (14.8.2 NMAC) and New Mexico Mechanical Code (14.9.2 NMAC).</li> <li>c) Above-ground use of reclaimed domestic wastewater shall not result in excessive ponding of wastewater and shall not exceed the water consumptive needs of the crop. The Permittee shall not discharge reclaimed domestic wastewater at times when the reuse area is saturated or frozen.</li> <li>d) The Permittee shall confine discharge of reclaimed domestic wastewater to the reuse area.</li> <li>e) The Permittee shall not discharge reclaimed domestic wastewater to crops used for human consumption.</li> <li>f) Water supply wells within 200 feet of a reuse area shall have adequate wellhead construction pursuant to 19.27.4 NMAC.</li> <li>g) Existing and accessible portions of the reclaimed domestic wastewater distribution system (with the exception of application equipment such as sprinklers or pivots) shall be colored purple or clearly labeled as being part of a reclaimed domestic wastewater distribution system. Piping, valves, outlets, and other plumbing fixtures shall be purple pursuant to the latest revision of the New Mexico Plumbing Code (14.8.2 NMAC) and New Mexico Mechanical Code (14.9.2 NMAC) to differentiate piping or fixtures used to convey reclaimed wastewater from those intended for potable or other uses.</li> <li>h) Valves, outlets, and sprinkler heads used in reclaimed wastewater systems shall be accessible only to authorized personnel.</li> </ul> <p>The Permittee shall demonstrate adherence to these requirements by submitting documentation consisting of narrative statements and date-stamped photographs as appropriate. The Permittee shall submit the documentation to NMED once during the term of this Discharge Permit in the next required periodic monitoring report after the issuance of the Discharge Permit.</p> <p>[Subsections B and C of 20.6.2.3109 NMAC, NMSA 1–78, § 74-6–5.D]</p>
11.	<p>The Permittee shall meet the following setbacks, access restrictions and equipment requirements for spray irrigation using Class 1B reclaimed domestic wastewater.</p> <ul style="list-style-type: none"> <li>a) Maintain a minimum 100-foot setback between any dwellings or occupied establishments and the edge of the reuse area.</li> <li>b) Postpone irrigation using reclaimed domestic wastewater at times when windy conditions may result in drift of reclaimed wastewater outside the reuse area.</li> </ul>

#	Terms and Conditions
	<p>c) Apply reclaimed domestic wastewater at times and in a manner that minimizes public contact.</p> <p>d) Limit spray irrigation system to low trajectory spray nozzles.</p> <p>[Subsections B and C of 20.6.2.3109 NMAC, NMSA 1–78, § 74–5.D]</p>
12.	<p>The Permittee shall meet the following requirements for the temporary above-ground use of reclaimed domestic wastewater.</p> <p>a) Restrict access to the reclaimed domestic wastewater distribution system (standpipe). Transfer of reclaimed domestic wastewater to other users shall only be done by the Permittee or its designee. The Permittee shall prohibit public access to the reclaimed domestic wastewater system.</p> <p>b) Notify all recipients of reclaimed domestic wastewater for temporary uses in writing of the following.</p> <ul style="list-style-type: none"> <li>i. Reclaimed domestic wastewater is approved only for construction activities; soil compaction; mixing of mortars, slurries or cement; dust control on roads and construction sites; animal watering; and irrigation of non-food crops.</li> <li>ii. Reclaimed domestic wastewater shall be discharged by gravity flow or under low pressure in a manner that minimizes misting and does not results in excessive standing or ponding of wastewater.</li> <li>iii. If the discharge method results in misting, the area(s) receiving the reclaimed domestic wastewater must be 100 feet from areas accessible to the public.</li> <li>iv. The area receiving the discharge must be 300 feet from potable water supply wells.</li> <li>v. Transport vehicles and storage tanks containing reclaimed domestic wastewater shall have signs, in English and Spanish, identifying the contents as non-potable water and advising against consumption.</li> <li>vi. The user shall not apply of reclaimed domestic wastewater at times when the receiving area is saturated or frozen.</li> </ul> <p>The Permittee shall maintain a log of all recipients of reclaimed domestic wastewater and shall provide the log to NMED upon request.</p> <p>[20.6.2.3109 NMAC]</p>
13.	<p>The Permittee shall institute a backflow prevention method to protect wells and public water supply systems from contamination by reclaimed domestic wastewater prior to discharging to the reuse area. Backflow prevention shall be achieved by a total disconnect (physical air gap separation between the discharge pipe and the liquid surface at least twice the diameter of the discharge pipe), or by a reduced pressure principal backflow prevention assembly (RP) installed on the line between the fresh water supply</p>

#	Terms and Conditions
	<p>wells or public water supply and the reclaimed domestic wastewater delivery system. The Permittee shall maintain backflow prevention at all times.</p> <p>The Permittee shall have RP devices inspected and tested by a certified backflow prevention assembly tester at the time of installation, repair or relocation and at least on an annual basis thereafter. The backflow prevention assembly tester shall have successfully completed a 40-hour backflow prevention course based on the University of Southern California’s Backflow Prevention Standards and Test Procedures, and obtained certification demonstrating completion. The Permittee shall have all malfunctioning RP devices repaired or replaced within 30 days of discovery. The Permittee shall cease using supply lines associated with the RP device until repair or replacement is complete.</p> <p>The Permittee shall maintain copies of the inspection and maintenance records and test results for each RP device associated with the backflow prevention program at a location available for inspection by NMED.</p> <p>[Subsection C of 20.6.2.3109 NMAC]</p>
14.	<p>The Permittee shall maintain fences around the Facility to restrict access by the general public and animals. The fences shall consist of a minimum of six-foot chain link or field fencing and locking gates. The Permittee shall maintain the fences to serve the stated purpose throughout the term of this Discharge Permit.</p> <p>[Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]</p>
15.	<p>The Permittee shall maintain signs indicating that the wastewater at the Facility is not potable. The Permittee shall post signs at the Facility entrance and other areas where there is potential for public contact with wastewater. The Permittee shall print signs in English and Spanish and shall ensure the signs remain visible and legible for the term of this Discharge Permit.</p> <p>[Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]</p>
16.	<p>The Permittee shall maintain the impoundment liners to avoid conditions that could affect the liner or the structural integrity of the impoundments. Characterization of such conditions may include the following:</p> <ul style="list-style-type: none"> <li>• erosion damage;</li> <li>• animal burrows or other damage;</li> <li>• the presence of vegetation including aquatic plants, weeds, woody shrubs or trees growing within five feet of the top inside edge of a sub-grade impoundment, within five feet of the toe of the outside berm of an above-grade impoundment, or within the impoundment itself;</li> </ul>

#	Terms and Conditions
	<ul style="list-style-type: none"> <li>• the presence of large debris or large quantities of debris in the impoundment;</li> <li>• evidence of seepage; or</li> <li>• evidence of berm subsidence.</li> </ul> <p>The Permittee shall routinely control vegetation growing around the impoundments by mechanical removal that is protective of the impoundment liner.</p> <p>The Permittee shall visually inspect the impoundments and surrounding berms on a monthly basis to ensure proper maintenance. In the event that inspection reveals any evidence of damage that threatens the structural integrity of an impoundment berm or liner, or that may result in an unauthorized discharge, the Permittee shall implement the Contingency Plan set forth in this Discharge Permit.</p> <p>The Permittee shall create and maintain a log of all impoundment inspections which describes the date of the inspection, any findings and repairs and the name of the person responsible for the inspection. The Permittee shall make the log available to NMED upon request.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
17.	<p>The Permittee shall preserve a minimum of two feet of freeboard, i.e., the liquid level in the impoundments and the elevation of the lowest-most top of the impoundment liner.</p> <p>In the event that the Permittee determines that it cannot preserve two feet of freeboard in the impoundment, the Permittee shall implement the Contingency Plan set forth in this Discharge Permit.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
18.	<p>The Permittee shall properly manage all solids generated by the treatment system to maintain effective operation of the system by removing solids as necessary and in accordance with associated equipment manufacturer’s specifications. The Permittee shall contain, transport, and dispose of solids removed from the treatment process in accordance with all local, state, and federal regulations.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
19.	<p>The Permittee shall utilize operators, certified by the State of New Mexico at the appropriate level pursuant to 20.7.4 NMAC, to operate the wastewater collection, treatment and disposal systems. A certified operator or a direct supervisee of a certified operator shall perform the operations and maintenance of all or any part of the wastewater system.</p>

#	Terms and Conditions
	<p>The Permittee shall notify the NMED within 24 hours if at any time the Permittee no longer has a certified operator maintaining the system.</p> <p>[Subsection C of 20.6.2.3109 NMAC, 20.7.4 NMAC]</p>

**B. MONITORING AND REPORTING**

#	Terms and Conditions
20.	<p>The Permittee shall conduct the monitoring, reporting, and other requirements listed below in accordance with the monitoring requirements of this Discharge Permit.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
21.	<p>METHODOLOGY – Unless otherwise specified by this Discharge Permit, or approved in writing by NMED, the Permittee shall use sampling and analytical techniques that conform with the references listed in Subsection B of 20.6.2.3107 NMAC.</p> <p>[Subsection B of 20.6.2.3107 NMAC]</p>

***Due Dates for Monitoring Reports***

#	Terms and Conditions
22.	<p>Quarterly monitoring - The Permittee shall perform monitoring and other Permit required actions during the following periods and shall submit quarterly reports to NMED by the following due dates:</p> <ul style="list-style-type: none"> <li>• January 1<sup>st</sup> through March 31<sup>st</sup> – <b>due by May 1<sup>st</sup></b>;</li> <li>• April 1<sup>st</sup> through June 30<sup>th</sup> – <b>due by August 1<sup>st</sup></b>;</li> <li>• July 1<sup>st</sup> through September 30<sup>th</sup> – <b>due by November 1<sup>st</sup></b>; and</li> <li>• October 1<sup>st</sup> through December 31<sup>st</sup> – <b>due by February 1<sup>st</sup></b>.</li> </ul> <p>[Subsection A of 20.6.2.3107 NMAC]</p>

**Monitoring Actions with Implementation Deadlines**

#	Terms and Conditions
23.	<p>The Permittee shall sample reclaimed domestic wastewater for the presence of perfluorinated chemicals (PFCs).</p> <p>Within 2.5 years of the issuance date of this Discharge Permit (by <b>DATE</b>), the Permittee shall collect a single grab sample from the discharge of the UV disinfection system. The Permittee shall analyze the sample for the following PFCs:</p> <ul style="list-style-type: none"> <li>• perfluorohexane sulfonic acid (PFHxS) (CAS 355-46-4)</li> <li>• perfluorooctane sulfonate (PFOS) (CAS 1763-23-1)</li> <li>• perfluorooctanoic acid (PFOA) (CAS 335-67-1)</li> </ul> <p>The Permittee shall properly collect, prepare, preserve, transport, and analyze the sample in accordance with ASTM D7979-17, or an equivalent method that uses liquid chromatography and tandem mass spectrometry (LC/MS/MS). The reporting limit shall be low enough to identify whether the combined concentration of the perfluorinated chemicals is less than the Tap Water Screening Level identified in the <i>NMED Risk Assessment Guidance for Site Assessments and Investigations</i>, Table A-1 available on the NMED Hazardous Waste Bureau’s website under Guidance Documents. The Permittee shall take appropriate measures to avoid cross contamination while collecting and transporting the sample. The selected laboratory should be able to provide guidance that ensures sample integrity. The Permittee shall submit a copy of the laboratory report, including analytical results, the QA/QC summary, and the Chain of Custody to NMED within 30 days of laboratory report receipt.</p> <p>[Subsection H of 20.6.2.3109 NMAC, Subsection A of 20.6.2.3107 NMAC]</p>

**Groundwater Monitoring Conditions**

#	Terms and Conditions
24.	<p>The Permittee shall perform quarterly groundwater sampling in the following groundwater monitoring wells and analyze the samples for TKN, NO<sub>3</sub>-N, TDS and Cl.</p> <ul style="list-style-type: none"> <li>• MW-1, located hydrologically downgradient of the old sludge/sand drying beds at the WWTP and approximately 40 feet southwest of the southern primary clarifier.</li> </ul> <p>The Permittee shall perform groundwater sample collection, preservation, transport, and analysis according to the following procedures.</p> <p>a) Measure the depth-to-most-shallow groundwater from the top of the well casing to</p>

#	Terms and Conditions
	<p>the nearest one-hundredth of a foot.</p> <p>b) Purge three well volumes of water from the well prior to sample collection.</p> <p>c) Obtain samples from the well for analysis.</p> <p>d) Properly prepare, preserve and transport samples.</p> <p>e) Analyze samples in accordance with the methods authorized in this Discharge Permit.</p> <p>The Permittee shall submit the depth-to-most-shallow groundwater measurements and the laboratory analytical data results including the laboratory QA/QC summary report for each well, to NMED in the quarterly monitoring reports.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
25.	<p>NMED shall have the option to perform downhole inspections of all groundwater monitoring wells identified in this Discharge Permit. NMED shall establish the inspection date and provide at least a 60-day notice to the Permittee by certified mail. The Permittee shall remove any existing dedicated pumps at least 48 hours prior to NMED inspection to allow adequate settling time of sediment agitated from pump removal.</p> <p>Should the Permittee decide to install a pump in a monitoring well without a dedicated pump, the Permittee shall notify NMED at least 90 days prior to pump installation so that NMED can schedule a downhole well inspection(s) prior to pump placement.</p> <p>[Subsections A and D of 20.6.2.3107 NMAC]</p>

**Facility Monitoring Conditions**

#	Terms and Conditions
26.	<p>The Permittee shall measure the total monthly volume, calculate the daily average volume, and record the daily peak volume of wastewater received by the treatment facility each month using a totalizing flow meter equipped with a data logger located at the Facility headworks. The Permittee shall submit the totalized, average daily and peak daily influent volumes for each month to NMED in the quarterly monitoring reports.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>
27.	<p>The Permittee shall on a monthly basis measure the volume discharged to <i>each</i> location receiving Class 1B reclaimed domestic wastewater using a totalizing flow meter. The meter shall be located on the transfer line between the UV disinfections discharge and the re-use location.</p>

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	<p>The Permittee shall maintain a log that records the date that discharges occur to <i>each</i> location and the monthly totalizing meter readings and units of measurement. The Permittee shall submit a copy of the log to NMED in the quarterly monitoring reports.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>
28.	<p>All flow meters shall be capable of having their accuracy verified under working (i.e., real-time in-the-field) conditions. The Permittee shall develop a field verification method for each flow meter and shall utilize that method to check the accuracy of each respective meter. The Permittee shall perform field calibrations, at a minimum, within 90 days of the issuance date of this Discharge Permit (<b>by DATE</b>), and then every other year thereafter. The Permittee shall also perform field calibrations upon repair or replacement of a flow measurement device.</p> <p>The Permittee shall calibrate each flow meter to its manufacturer’s recommended specification which shall be no less accurate than plus or minus 10 percent of actual flow, as measured under field conditions. An individual knowledgeable in flow measurement shall perform field calibration and the installation/operation of the device in use. The Permittee shall prepare a flow meter calibration report for each flow measurement device calibration event. The flow meter calibration report shall include the following information.</p> <ol style="list-style-type: none"> <li>a) The location and meter identification.</li> <li>b) The method of flow meter field calibration employed.</li> <li>c) The measured accuracy of each flow meter prior to adjustment indicating the positive or negative offset as a percentage of actual flow as determined by an in-field calibration check.</li> <li>d) The measured accuracy of each flow meter following adjustment, if necessary, indicating the positive or negative offset as a percentage of actual flow of the meter.</li> <li>e) Any flow meter repairs made during the previous year or during field calibration.</li> <li>f) The name of the individual performing the calibration and the date of the calibration.</li> </ol> <p>The Permittee shall maintain records of flow meter calibration(s) at a location accessible for review by NMED during Facility inspections.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>
29.	<p>The Permittee shall visually inspect flow meters on a monthly basis for evidence of malfunction. The Permittee shall maintain a log of the inspections that includes a date of the inspection, findings and repairs, and the name of the inspector. The Permittee shall make the log available to NMED upon request.</p>

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	<p>If a visual inspection indicates a flow meter is not functioning as required by this Discharge Permit, the Permittee shall repair or replace the meter within 30 days of discovery. For <i>repaired</i> meters, the Permittee shall submit a report to NMED with the next monitoring report following the repair that includes a description of the malfunction; a statement verifying the repair; and a flow meter field calibration report completed in accordance with the requirements of this Discharge Permit. For <i>replacement</i> meters, the Permittee shall submit a report to NMED with the next monitoring report following the replacement that includes a design schematic for the device and a flow meter field calibration report completed in accordance with the requirements of this Discharge Permit.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
30.	<p>The Permittee shall collect samples of reclaimed domestic wastewater from the discharge of the UV disinfection system on a quarterly basis and analyze the samples for:</p> <ul style="list-style-type: none"> <li>• TKN;</li> <li>• NO<sub>3</sub>-N;</li> <li>• TDS; and</li> <li>• Cl.</li> </ul> <p>The Permittee shall ensure the samples are properly prepared, preserved, transported, and analyzed in accordance with the methods authorized in this Discharge Permit. The Permittee shall submit the laboratory analytical data results, including the QA/QC summary and Chain of Custody, to NMED in the subsequent quarterly monitoring report.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>
31.	<p>During any week that the discharge of reclaimed domestic wastewater occurs, the Permittee shall perform the following analyses on the wastewater samples collected at the discharge of the UV disinfection system using the following sampling method and frequency:</p> <ul style="list-style-type: none"> <li>• Fecal coliform or E. coli bacteria: grab sample at peak daily flow three times per week;</li> <li>• BOD<sub>5</sub>: six-hour composite sample three times per week;</li> <li>• TSS: six-hour composite sample three times per week; and</li> <li>• UV transmissivity values: record whenever collecting bacteria samples.</li> </ul> <p>The Permittee shall ensure the samples are properly prepared, preserved, transported and analyzed in accordance with the methods authorized in this Discharge Permit. The Permittee shall submit the laboratory analytical data results, including the QA/QC summary and Chain of Custody, and a copy of the log of UV transmissivity values to NMED in the subsequent quarterly monitoring report.</p>

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	<p>[Subsection A of 20.6.2.3107 NMAC, Subsections B, C and H of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]</p>
<p>32.</p>	<p>On an annual basis, the Permittee shall collect a 24-hour flow weighted composite sample (except as noted for pH) of reclaimed domestic wastewater from the discharge of the UV disinfection system and analyze the sample for the following inorganic contaminants (dissolved fraction, except as noted):</p> <ul style="list-style-type: none"> <li>• aluminum (CAS 7429-90-5)</li> <li>• antimony (CAS 7440-36-0)</li> <li>• arsenic (CAS 7440-38-2)</li> <li>• barium (CAS 7440-39-3)</li> <li>• beryllium (CAS 7440-41-7)</li> <li>• boron (CAS 7440-42-8)</li> <li>• cadmium (CAS 7440-43-9)</li> <li>• chromium (CAS 7440-47-3)</li> <li>• cobalt (CAS 7440-48-4)</li> <li>• copper (CAS 7440-50-8)</li> <li>• cyanide (CAS 57-12-5)</li> <li>• fluoride (CAS 16984-48-8)</li> <li>• iron (CAS 7439-89-6)</li> <li>• lead (CAS 7439-92-1)</li> <li>• manganese (CAS 7439-96-5)</li> <li>• molybdenum (CAS 7439-98-7)</li> <li>• total mercury (nonfiltered) (CAS 7439-97-6)</li> <li>• pH (instantaneous)</li> <li>• nickel (CAS 7440-02-0)</li> <li>• radioactivity: combined radium-226 &amp; radium-228 (CAS 15262-20-1)</li> <li>• selenium (CAS 7782-49-2)</li> <li>• silver (CAS 7440-224)</li> <li>• sulfate (CAS 14808-79-8)</li> <li>• thallium (CAS 7440-28-0)</li> <li>• uranium (CAS 7440-61-1)</li> <li>• zinc (CAS 7440-66-6)</li> </ul> <p>The Permittee shall properly collect, prepare, preserve, transport and analyzed the samples in accordance with the methods authorized in this Discharge Permit. The Permittee shall analyze the sample using methods with reporting limits that are less than the corresponding numerical groundwater standards identified in 20.6.2.3103 NMAC.</p> <p>The Permittee shall submit a summary of measured concentrations compared with the corresponding groundwater standards, a copy of the laboratory report including the laboratory analytical data results, the QA/QC summary and the Chain of Custody, to NMED in the monitoring reports due by August 1<sup>st</sup> each year.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>
<p>33.</p>	<p>On an annual basis, the Permittee shall collect a grab sample of reclaimed domestic wastewater from the discharge of the UV disinfection system and analyze the non-filtered sample for the following organic contaminants:</p>

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	<ul style="list-style-type: none"> <li>• atrazine (CAS 1912-24-9)</li> <li>• benzene (CAS 71-43-2)</li> <li>• benzo-a-pyrene (CAS 50-32-8)</li> <li>• carbon tetrachloride (CAS 56-23-5)</li> <li>• chloroform (CAS 67-66-3)</li> <li>• 1,2-dichlorobenzene (CAS 95-50-1)</li> <li>• 1,4-dichlorobenzene (CAS 106-46-7)</li> <li>• 1,1-dichloroethane (CAS 75-34-3)</li> <li>• 1,2-dichloroethane (EDC, CAS 107-06-2)</li> <li>• 1,1-dichloroethene (1,1-DCE, CAS 75-35-4)</li> <li>• cis-1,2-dichloroethene (CAS 156-59-2)</li> <li>• trans-1,2-dichloroethene (CAS 156-60-5)</li> <li>• 1,2-dichloropropane (PDC, CAS 78-87-5)</li> <li>• ethylbenzene (CAS 100-41-4)</li> <li>• ethylene dibromide (EDB, CAS 106-93-4)</li> <li>• methylene chloride (CAS 75-09-2)</li> <li>• <u>PAHs</u>: total naphthalene (CAS 91-20-3) plus monomethylnaphthalenes</li> <li>• phenols</li> <li>• polychlorinated biphenyls (PCBs, CAS 1336-36-3)</li> <li>• pentachlorophenol (CAS 87-86-5)</li> <li>• toluene (CAS 108-88-3)</li> <li>• styrene (CAS 100-42-5)</li> <li>• 1,1,2,2-tetrachloroethane (CAS 79-34-5)</li> <li>• tetrachloroethene (PCE, CAS 127-18-4)</li> <li>• 1,2,4-trichlorobenzene (CAS 120-82-1)</li> <li>• 1,1,1-trichloroethane (1,1,1-TCA, CAS 71-55-6)</li> <li>• 1,1,2-trichloroethane (CAS 79-00-5)</li> <li>• trichloroethene (TCE, CAS 79-01-6)</li> <li>• vinyl chloride (CAS 75-01-4)</li> <li>• total xylenes (CAS 1330-20-7)</li> </ul> <p>The Permittee shall properly collect, prepare, preserve, transport and analyze the samples in accordance with the methods authorized in this Discharge Permit. The Permittee shall analyze samples using methods with reporting limits that are less than the corresponding numerical groundwater standards identified in 20.6.2.3103 NMAC.</p> <p>The Permittee shall submit a summary of measured concentrations compared with the corresponding groundwater standards, and a copy of the laboratory report including the laboratory analytical data results, the QA/QC summary and the Chain of Custody to NMED in the monitoring reports due by August 1<sup>st</sup> each year.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>
34.	<p>The Permittee shall submit records of solids disposal, including a copy of all Discharge Monitoring Reports (i.e., DMRs) required by the EPA pursuant to 40 CFR Part 503, for the previous calendar year, to NMED annually in the monitoring report due by August 1<sup>st</sup> each year.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>

**C. CONTINGENCY PLAN**

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35.	<p>In the event that groundwater monitoring indicates that groundwater exceeds a standard identified in Section 20.6.2.3103 NMAC, the Permittee shall collect a confirmatory sample from the monitoring well within 15 days of receipt of the initial sampling results to confirm the initial sampling results.</p> <p>Within 60 days of confirmation of groundwater contamination, the Permittee shall submit to NMED a Corrective Action Plan (CAP) that proposes, at a minimum, contaminant source control measures and an implementation schedule. The Permittee shall implement the CAP as approved by NMED.</p> <p>Once this groundwater exceedance response condition is invoked whether during the term of this Discharge Permit or after the term of this Discharge Permit and prior to the completion of the Discharge Permit closure plan requirements, this condition shall apply until the Permittee has fulfilled the requirements of this condition and groundwater monitoring confirms for a minimum of eight (8) consecutive quarterly samples that groundwater does not exceed the standards of Section 20.6.2.3103 NMAC.</p> <p>Violation of the groundwater standard beyond 180 days after the confirmation of groundwater contamination may cause NMED to require the Permittee to abate water pollution consistent with the requirements and provisions of Section 20.6.2.4101, Section 20.6.2.4103, Subsections C and E of 20.6.2.4106, Section 20.6.2.4107, Section 20.6.2.4108 and Section 20.6.2.4112 NMAC.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection E of 20.6.2.3109 NMAC]</p>
36.	<p>In the event that information available to NMED indicates that a well is not constructed in a manner consistent with the attached Monitoring Well Guidance; contains insufficient water to effectively monitor groundwater quality; or is otherwise not completed in a manner that is protective of groundwater quality, the Permittee shall install a replacement well(s) within 120 days following notification from NMED.</p> <p>The Permittee shall install replacement wells at locations approved by NMED prior to installation and shall complete replacement wells in accordance with the Monitoring Well Guidance. The Permittee shall submit well construction and lithologic logs to NMED within 60 days following well completion.</p> <p>The Permittee shall properly plug and abandon a monitoring well requiring replacement upon completion of the replacement monitoring well. The Permittee shall complete the well plugging and abandonment, and shall document the abandonment procedures, in</p>

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	<p>accordance with the Monitoring Well Guidance and all applicable local, state, and federal regulations. The Permittee shall submit a copy of the well abandonment documentation to NMED within 60 days following the replacement well completion.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
37.	<p>In the event that analytical results of a treated wastewater sample indicate an exceedance of the total nitrogen discharge limit set in this Discharge Permit, the Permittee shall collect and submit for analysis a second sample within 48 hours of the receipt of the initial sampling results. In the event the second sample results indicate an exceedance of the discharge limit, the Permittee shall implement the following contingencies.</p> <ul style="list-style-type: none"> <li>a) Within 7 days of the second sample analysis date indicating exceedance of the discharge limit, the Permittee shall:                         <ul style="list-style-type: none"> <li>i) notify NMED that the Permittee is implementing the Contingency Plan; and</li> <li>ii) submit a copy of the first and second analytical results indicating an exceedance to NMED.</li> </ul> </li> <li>b) The Permittee shall increase the frequency of total nitrogen wastewater sampling and analysis of treated wastewater to once per month.</li> <li>c) The Permittee shall examine the operation and maintenance log, required by the Record Keeping conditions of this Discharge Permit, for improper operational procedures.</li> <li>d) The Permittee shall conduct a physical inspection of the treatment system to detect abnormalities. The Permittee shall correct any abnormalities discovered. The Permittee shall submit a report to NMED detailing the corrections within 30 days of correction.</li> <li>e) In the event that any analytical results from monthly wastewater sampling indicate an exceedance of the total nitrogen discharge limit, the Permittee shall submit a CAP to NMED for approval proposing to modify operational procedures and/or upgrade the treatment process to achieve the total nitrogen limit. The Permittee shall submit the CAP including a schedule for completion of corrective actions and within 90 days of receipt of the analytical results of the second sample indicating that the discharge limit is continuing to be exceeded. The Permittee shall initiate implementation of the CAP following approval by NMED.</li> </ul> <p>When analytical results from three consecutive months of wastewater sampling do not exceed the discharge limit, the Permittee may request NMED authorize a return to a quarterly monitoring frequency.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>

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38.	<p>In the event that analytical results of a reclaimed domestic wastewater sample indicate an exceedance of any of the maximum discharge limits for BOD<sub>5</sub>, TSS, or E. coli bacteria set by this Discharge Permit, the Permittee shall collect and submit for analysis a second sample within 24 hours after becoming aware of the exceedance. In the event the second sample results confirm the exceedance of the maximum discharge limits, the Permittee shall implement the Contingency Plan below.</p> <p>In the event that analytical results of a reclaimed domestic wastewater sample indicate an exceedance of any of the 30-day average discharge limits for BOD<sub>5</sub>, TSS, or E. coli bacteria set by this Discharge Permit (i.e., confirmed exceedance), the Permittee shall implement the Contingency Plan below.</p> <p><u>Contingency Plan</u></p> <ol style="list-style-type: none"><li>a) Within 24 hours of becoming aware of a confirmed exceedance (as identified above), the Permittee shall:<ol style="list-style-type: none"><li>i) notify NMED that the Permittee is implementing the Contingency Plan; and</li><li>ii) submit copies of the recent analytical results indicating an exceedance to NMED.</li></ol></li><li>b) The Permittee shall immediately cease discharging reclaimed domestic wastewater to the reuse area if the E. coli bacteria maximum limit is exceeded.</li><li>c) The Permittee shall examine the operation and maintenance log, required by the Record Keeping conditions of this Discharge Permit, for improper operational procedures.</li><li>d) The Permittee shall conduct a physical inspection of the treatment system to detect abnormalities and shall correct any abnormalities discovered. The Permittee shall submit a report detailing the corrections made to NMED within 30 days following correction.</li></ol> <p>When the analytical results from samples of reclaimed domestic wastewater, sampled as required by this Discharge Permit, no longer indicate an exceedance of any of the maximum discharge limits, the Permittee may resume discharging reclaimed domestic wastewater to the reuse area.</p> <p>If a Facility is required to implement the Contingency Plan more than two times in a 12-month period, the Permittee shall propose to modify operational procedures and/or upgrade the treatment process to achieve consistent compliance with the maximum and 30-day average discharge limits by submitting a CAP for NMED approval. The Permittee shall ensure the CAP includes a schedule for completion of corrective actions and submit the CAP within 60 days following receipt of the analytical results confirming the exceedance. The Permittee shall initiate implementation of the CAP following approval</p>

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	<p>by NMED. NMED may require, prior to recommencing discharge to the reuse area, additional sampling of any stored reclaimed domestic wastewater.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
39.	<p>In the event that an inspection reveals significant damage has occurred or is likely to affect the structural integrity of an impoundment or liner or their ability to contain contaminants, the Permittee shall propose the repair or replacement by submitting a CAP to NMED for approval. The Permittee shall submit the CAP to NMED within 30 days after discovery of the damage or following notification from NMED that significant damage is evident. The Permittee shall ensure the CAP includes a schedule for completion of corrective actions. The Permittee shall initiate implementation of the CAP following approval by NMED.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
40.	<p>In the event that an impoundment cannot preserve a minimum of two feet of freeboard, the Permittee shall take actions to restore the required freeboard as authorized by this Discharge Permit and all applicable local, state, and federal regulations.</p> <p>In the event that two feet of freeboard cannot be restored within a period of 72 hours following discovery, the Permittee shall propose actions to restore two feet of freeboard by submitting a short-term Corrective Action Plan (CAP) to NMED for approval. Examples of short-term corrective actions include the pumping and hauling of excess wastewater from the impoundment or reducing the volume of wastewater discharged to the impoundment. The Permittee shall ensure the CAP includes a schedule for completion of corrective actions. The Permittee shall submit the CAP within 15 days following the date the Permittee or the NMED discover the exceedance. The Permittee shall implement the CAP following NMED approval.</p> <p>In the event that the short-term corrective actions fail to restore two feet of freeboard, the Permittee shall submit to NMED a proposal for permanent corrective actions in a long-term CAP. The Permittee shall submit the long-term CAP within 90 days following failure of the short-term CAP. Examples corrective actions include the installation of an additional storage impoundment or a significant and permanent reduction in the volume of wastewater discharged to the impoundment. The Permittee shall ensure the long-term CAP includes a schedule for completion of corrective actions. The Permittee shall implement the CAP following NMED approval.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>

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41.	<p>In the event the average solids accumulation exceeds one-third of the maximum liquid depth in the three-million-gallon Effluent Storage Pond, the Permittee shall propose a plan for the removal and disposal of the solids. The Permittee shall submit the solids removal and disposal plan to NMED for approval within 120 days following discovery and includes the following information.</p> <ul style="list-style-type: none"><li>a) A method for removal of the solids to a depth of less than six inches throughout the treatment impoundment in a manner that is protective of the impoundment liner.</li><li>b) A description of how the Permittee will contain, transport, and dispose of the solids in accordance with all local, state, and federal regulations, including 40 CFR Part 503.</li><li>c) A schedule for completion of the solids removal and disposal project.</li></ul> <p>The Permittee shall initiate implementation of the plan following approval by NMED.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
42.	<p>In the event that a release occurs that is not authorized under this Discharge Permit (commonly known as a “spill”), the Permittee shall take measures to mitigate damage from the unauthorized discharge and initiate the notifications and corrective actions required in Section 20.6.2.1203 NMAC and summarized below. A release is defined as such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property.</p> <p>Within <u>24 hours</u> following discovery of the unauthorized discharge, the Permittee shall verbally notify NMED and provide the following information.</p> <ul style="list-style-type: none"><li>a) The name, address, and telephone number of the person or persons in charge of the Facility, as well as of the owner and/or operator of the Facility.</li><li>b) The name and address of the Facility.</li><li>c) The date, time, location, and duration of the unauthorized discharge.</li><li>d) The source and cause of unauthorized discharge.</li><li>e) A description of the unauthorized discharge, including its estimated chemical composition.</li><li>f) The estimated volume of the unauthorized discharge.</li><li>g) Any actions taken to mitigate immediate damage from the unauthorized discharge.</li></ul> <p>Within <u>one week</u> following discovery of the unauthorized discharge, the Permittee shall submit written notification to NMED providing the information listed above and any pertinent updates.</p> <p>Within <u>15 days</u> following discovery of the unauthorized discharge, the Permittee shall submit a Corrective Action Plan (CAP) to NMED describing any corrective actions</p>

#	Terms and Conditions
	<p>previously taken and corrective actions to be taken relative to the unauthorized discharge. The CAP shall include the following information.</p> <ul style="list-style-type: none"> <li>a) A description of proposed actions to mitigate damage from the unauthorized discharge.</li> <li>b) A description of proposed actions to prevent future unauthorized discharges of this nature.</li> <li>c) A schedule for completion of proposed actions.</li> </ul> <p>In the event that the unauthorized discharge causes or may with reasonable probability cause water pollution in excess of the standards and requirements of Section 20.6.2.4103 NMAC, and the water pollution will not be abated within 180 days after notice is required to be given pursuant to Paragraph (1) of Subsection A of 20.6.2.1203 NMAC, NMED may require the Permittee to abate water pollution pursuant to Sections 20.6.2.4000 through 20.6.2.4115 NMAC.</p> <p>The Permittee shall not construe anything in this condition as relieving them of the obligation to comply with all requirements of Section 20.6.2.1203 NMAC.</p> <p>[20.6.2.1203 NMAC]</p>
43.	<p>In the event that NMED or the Permittee identifies any failures of the discharge plan, i.e., the application, or this Discharge Permit not specifically noted herein, NMED may require the Permittee to submit a CAP and a schedule for completion of corrective actions to address the failure(s). Additionally, NMED may require a discharge permit modification to achieve compliance with 20.6.2 NMAC.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection E of 20.6.2.3109 NMAC]</p>

**D. CLOSURE PLAN**

#	Terms and Conditions
44.	<p>The Permittee shall perform the following closure measures in the event the Facility, or a component of the Facility, is proposed to be permanently closed.</p> <p>Within <u>90 days</u> of ceasing to discharge to the treatment system, the Permittee shall complete the following closure measures.</p> <ul style="list-style-type: none"> <li>a) Plug the line leading to the system so that a discharge can no longer occur.</li> <li>b) Evaporate wastewater in the system components and storage impoundments or drain and dispose of in accordance with all local, state, and federal regulations, or discharged from the system to the reuse area as authorized by this Discharge Permit.</li> </ul>

#	Terms and Conditions
	<p>The discharge of accumulated solids (sludge) to the reuse area is prohibited.</p> <p>c) Contain, transport, and dispose of solids removed from the treatment system in accordance with all local, state, and federal regulations, including 40 CFR Part 503. The Permittee shall maintain a record of all solids transported for off-site disposal.</p> <p>Within <u>180 days</u> of ceasing to discharge to the treatment system (or unit), the Permittee shall complete the following closure measures.</p> <p>a) Remove all lines leading to and from the treatment system, or permanently plug and abandon them in place.</p> <p>b) Remove or demolish all treatment system components, and re-grade the area with suitable fill to blend with surface topography, promote positive drainage and prevent ponding.</p> <p>c) Perforate or remove the storage impoundment liners; fill the impoundments with suitable fill; and re-grade the impoundment sites to blend with surface topography, promote positive drainage and prevent ponding.</p> <p>The Permittee shall continue groundwater monitoring until the Permittee meets the requirements of this condition and groundwater monitoring confirms for a minimum of eight consecutive quarterly groundwater sampling events that groundwater does not exceed the standards of Section 20.6.2.3103 NMAC. This period is referred to as “post-closure.”</p> <p>If at any time monitoring results show an exceedance of a groundwater quality standard in Section 20.6.2.3103 NMAC, the Permittee shall implement the Contingency Plan required by this Discharge Permit.</p> <p>Following notification from NMED that the Permittee may cease post-closure monitoring, the Permittee shall plug and abandon the monitoring well in accordance with the attached Monitoring Well Guidance.</p> <p>When the Permittee has met all closure and post-closure requirements and verified appropriate actions with date stamped photographic evidence or an associated NMED inspection, the Permittee may submit to NMED a written request, including photographic evidence, for termination of the Discharge Permit.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection D of 20.6.2.4103 NMAC, 40 CFR Part 503]</p>

**E. GENERAL TERMS AND CONDITIONS**

#	Terms and Conditions
45.	<p>RECORD KEEPING - The Permittee shall maintain a written record of the following:</p> <ul style="list-style-type: none"><li>• Information and data used to complete the application for this Discharge Permit;</li><li>• Information, data, and documents demonstrating completion of closure activities;</li><li>• Any releases (commonly known as “spills”) not authorized under this Discharge Permit and reports submitted pursuant to 20.6.2.1203 NMAC;</li><li>• The operation, maintenance, and repair of all facilities/equipment used to treat, store or dispose of wastewater;</li><li>• Facility record drawings (plans and specifications) showing the actual construction of the Facility and bear the seal and signature of a licensed New Mexico professional engineer;</li><li>• Copies of logs, inspection reports, and monitoring reports completed and/or submitted to NMED pursuant to this Discharge Permit;</li><li>• The volume of wastewater or other wastes discharged pursuant to this Discharge Permit;</li><li>• Groundwater quality and wastewater quality data collected pursuant to this Discharge Permit;</li><li>• Copies of construction records (well log) for all sampled groundwater monitoring wells pursuant to this Discharge Permit;</li><li>• The maintenance, repair, replacement or calibration of any monitoring equipment or flow measurement devices required by this Discharge Permit; and</li><li>• Data and information related to field measurements, sampling, and analysis conducted pursuant to this Discharge Permit, including:<ul style="list-style-type: none"><li>○ the dates, location and times of sampling or field measurements;</li><li>○ the name and job title of the individuals who performed each sample collection or field measurement;</li><li>○ the sample analysis date of each sample</li><li>○ the name and address of the laboratory, and the name of the signatory authority for the laboratory analysis;</li><li>○ the analytical technique or method used to analyze each sample or collect each field measurement;</li><li>○ the results of each analysis or field measurement, including raw data;</li><li>○ the results of any split, spiked, duplicate or repeat sample; and</li><li>○ a copy of the laboratory analysis chain-of-custody as well as a description of the quality assurance and quality control procedures used.</li></ul></li></ul>

#	Terms and Conditions
	<p>The Permittee shall maintain the written record at a location accessible to NMED during a Facility inspection for the lifetime of the Discharge Permit. The Permittee shall make the record available to the department upon request.</p> <p>[Subsections A and D of 20.6.2.3107 NMAC]</p>
46.	<p><b>SUBMITTALS</b> – The Permittee shall submit both a paper copy and an electronic copy of all notification and reporting documents required by this Discharge Permit, e.g., monitoring reports. The Permittee shall submit paper and electronic documents to the NMED Permit Contact identified on the Permit cover page.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
47.	<p><b>INSPECTION and ENTRY</b> – The Permittee shall allow NMED to inspect the Facility and its operations that are subject to this Discharge Permit and the WQCC regulations. NMED may upon presentation of proper credentials, enter at reasonable times upon or through any premises in which a water contaminant source is located or in which any maintained records required by this Discharge Permit, the regulations of the federal government, or the WQCC are located.</p> <p>The Permittee shall allow NMED to have access to and reproduce for their use any copy of the records, and to perform assessments, sampling or monitoring during an inspection for the purpose of evaluating compliance with this Discharge Permit and the WQCC regulations.</p> <p>No person shall construe anything in this Discharge Permit as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other local, state or federal regulations.</p> <p>[Subsection D of 20.6.2.3107 NMAC, NMSA 1978, §§ 74-6-9.B and 74-6-9.E]</p>
48.	<p><b>DUTY to PROVIDE INFORMATION</b> - The Permittee shall, upon NMED’s request, allow for NMED’s inspection/duplication of records required by this Discharge Permit and/or furnish to NMED copies of such records.</p> <p>[Subsection D of 20.6.2.3107 NMAC]</p>
49.	<p><b>MODIFICATIONS and/or AMENDMENTS</b> – In the event the Permittee proposes a change to the Facility or the Facility’s discharge that would result in a change in the volume discharged; the location of the discharge; or in the amount or character of water contaminants received, treated or discharged by the Facility, the Permittee shall notify NMED prior to implementing such changes. The Permittee shall obtain NMED’s approval</p>

#	Terms and Conditions
	<p>(which may require modification of this Discharge Permit) prior to implementing such changes.</p> <p>[Subsection C of 20.6.2.3107 NMAC, Subsections E and G of 20.6.2.3109 NMAC]</p>
50.	<p>PLANS and SPECIFICATIONS – In the event the Permittee proposes to construct a wastewater system or change a process unit of an existing system such that the quantity or quality of the discharge will change substantially from that authorized by this Discharge Permit, the Permittee shall submit construction plans and specifications of the proposed system or process unit to NMED for approval prior to the commencement of construction.</p> <p>In the event the Permittee implements changes to the wastewater system authorized by this Discharge Permit that result in only a minor effect on the character of the discharge, the Permittee shall report such changes (including the submission of record drawings where applicable) to NMED prior to implementation.</p> <p>[Subsections A and C of 20.6.2.1202 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]</p>
51.	<p>CIVIL PENALTIES - Any violation of the requirements and conditions of this Discharge Permit, including any failure to allow NMED staff to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject the Permittee to a civil enforcement action. Pursuant to WQA 74-6-10(A) and (B), such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, modifying or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to WQA 74-6-10(C) and 74-6-10.1, civil penalties of up to \$15,000 per day of noncompliance may be assessed for each violation of the WQA 74-6-5, the WQCC Regulations, or this Discharge Permit, and civil penalties of up to \$10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. In any action to enforce this Discharge Permit, the Permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit.</p> <p>[20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10 and 74-6-10.1]</p>
52.	<p>CRIMINAL PENALTIES – No person shall:</p> <ul style="list-style-type: none"> <li>• Make any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or maintained under the WQA;</li> <li>• Falsify, tamper with or render inaccurate any monitoring device, method or record maintained under the WQA; or</li> </ul>

#	Terms and Conditions
	<ul style="list-style-type: none"> <li>• Fail to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation.</li> </ul> <p>Any person who knowingly violates or knowingly causes or allows another person to violate the requirements of this condition is guilty of a fourth-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who is convicted of a second or subsequent violation of the requirements of this condition is guilty of a third-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition or knowingly causes another person to violate the requirements of this condition and thereby causes a substantial adverse environmental impact is guilty of a third-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition and knows at the time of the violation that he is creating a substantial danger of death or serious bodily injury to any other person is guilty of a second degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15.</p> <p>[20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10.2.A through 74-6-10.2.F]</p>
53.	<p>COMPLIANCE with OTHER LAWS - Nothing in this Discharge Permit shall be construed in any way as relieving the Permittee of the obligation to comply with any other applicable federal, state, and/or local laws, regulations, zoning requirements, nuisance ordinances, permits or orders.</p> <p>[NMSA 1978, § 74-6-5.L]</p>
54.	<p>RIGHT to APPEAL - The Permittee may file a petition for review before the WQCC on this Discharge Permit. Such petition shall be in writing to the WQCC within thirty days of the receipt of postal notice of this Discharge Permit and shall include a statement of the issues raised and the relief sought. Unless the Permittee files a timely petition for review, the decision of NMED shall be final and not subject to judicial review.</p> <p>[20.6.2.3112 NMAC, NMSA 1978, § 74-6-5.O]</p>
55.	<p>TRANSFER of DISCHARGE PERMIT - Prior to the transfer of any ownership, control, or possession of this Facility or any portion thereof, the Permittee shall:</p> <ul style="list-style-type: none"> <li>• Notify the proposed transferee in writing of the existence of this Discharge Permit;</li> <li>• Include a copy of this Discharge Permit with the notice; and</li> <li>• Deliver or send by certified mail to NMED a copy of the notification and proof that the proposed transferee has received such notification.</li> </ul>

#	Terms and Conditions
	<p>The Permittee shall continue to be responsible for any discharge from the Facility, until both ownership and possession of the Facility have been transferred to the transferee.</p> <p>[20.6.2.3111 NMAC]</p>
56.	<p>PERMIT FEES – The Permittee shall be aware that the payment of permit fees is due at the time of Discharge Permit approval. The Permittee may pay the permit fees in a single payment or they may pay the fee in equal installments on a yearly basis over the term of the Discharge Permit. The Permittee shall remit single payments to NMED no later than 30 days after the Discharge Permit issuance date. The Permittee shall remit initial installment payments to NMED no later than 30 days after the Discharge Permit issuance date; with subsequent installment payments remitted to NMED no later than the anniversary of the Discharge Permit issuance date.</p> <p>Permit fees are associated with <u>issuance</u> of this Discharge Permit. No person shall construe anything in this Discharge Permit as relieving the Permittee of the obligation to pay all permit fees assessed by NMED. A Permittee that ceases discharging or does not commence discharging from the Facility during the term of the Discharge Permit shall pay all permit fees assessed by NMED. NMED shall suspend or terminate an approved Discharge Permit if the Permittee fails to remit an installment payment by its due date.</p> <p>[Subsection F of 20.6.2.3114 NMAC, NMSA 1978, § 74-6-5.K]</p>



## New Mexico Environment Department Ground Water Quality Bureau Discharge Permit Summary

### Facility Information

<b>Facility Name</b>	City of Tucumcari
<b>Discharge Permit Number</b>	DP-1700
<b>Legally Responsible Party</b>	Britt Lusk, City Manager City of Tucumcari P.O. Box 1188 Tucumcari, NM 88401

### Treatment, Disposal and Site Information

<b>Primary Waste Type</b>	Domestic
<b>Facility Type</b>	WWTF; Synthetically lined storage impoundment; Re-use wastewater areas; transfer of re-use wastewater

#### Treatment

Type	Designation	Description & Comments
WWTF	WWTF	Extended aeration wastewater treatment facility
Headworks	Headworks	Mechanical bar screen with bypass manual bar screen; aerated grit chamber with manual bypass chamber (two chambers – 2,780 gallons/each) with grit blowers; 3 submersible influent lift pumps (1,600 GPM each)
Influent Flow Meter	Influent Flow Meter	Influent Flow meter (headworks)
Primary Clarifiers	Primary Clarifiers	Two 50' diameter primary clarifiers; side water depth 9'; total surface area 3,927 ft <sup>2</sup> ; two sludge pumps (130 GPM/each)
Medium Rate Activated sludge Basin (MRAS)	Medium Rate Activated Sludge Basin (MRAS)	Two basins with a total volume of 06 MGD; 4 mixers; 3 centrifugal blowers (1,580 scfm each); 1,320 total fine bubble diffusers; each basin with a submersible drain pump at 400 GPM
Re-aeration Basins	Re-aeration Basins	Two basins with a total volume of 0.1 MGD; two mixers; two positive displacement mixers; 100 total fine bubble diffusers
Secondary Clarifiers	Secondary Clarifiers	Two 50' diameter secondary clarifiers; side water depth 16'; total volume 470,000; three submersible dry-pit RAS recycle pumps at 694 GPM each; secondary submersible scum pump at 100 GPM
Effluent Meter	Effluent Meter	Effluent has a primary 9" Parshall flume with electronic transducer and continuous flow meter
Re-use Pumps	Re-use Pumps	Two vertical turbine pumps at 100 GPM for WWTF irrigation and process wash down; re-use pond 4 acre-ft of effluent storage; re-use pump station with two vertical turbine pumps at 350 GPM each
Effluent Re-use	Effluent Re-use Flow Meter (Re-use Pond)	Electromagnetic Flow Meter (closed pipe)





## New Mexico Environment Department Ground Water Quality Bureau Discharge Permit Summary

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### Current Action

Application Received  
Public Notice Published  
Permit Issued (Issuance Date)  
Permitted Discharge Volume

### Renewal

October 23, 2019  
[to be published]  
[issuance date]  
1.2 MGD

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### NMED Contact Information

#### Mailing Address

Ground Water Quality Bureau  
P.O. Box 5469  
Santa Fe, New Mexico 87502-5469

#### GWQB Telephone Number

(505) 827-2900

#### NMED Lead Staff

Avery Young

#### Lead Staff Telephone Number

(505) 699-8564

#### Lead Staff Email

[avery.young@state.nm.us](mailto:avery.young@state.nm.us)

draft

## **Groundwater Discharge Permit Guidance for Synthetically Lined Lagoons – Liner Material and Site Preparation**

This guidance document represents minimum liner material and site preparation requirements for wastewater treatment, storage and evaporation lagoons. These requirements do not apply to lagoons storing hazardous wastes or high strength waste. The Ground Water Quality Bureau may impose additional requirements (e.g., double-lined lagoons with leak detection) for facilities discharging hazardous or high strength waste to lagoons through the development of specific Discharge Permit conditions for such facilities.

### Liner Material Requirements:

1. The liner shall be chemically compatible with any material that will contact the liner.
2. The liner material shall be resistant to deterioration by sunlight if any portion of the liner will be exposed.
3. Synthetic liner material shall be of sufficient thickness to have adequate tensile strength and tear and puncture resistance. Under no circumstances shall a synthetic liner material less than 40 mils in thickness be accepted. Any liner material shall be certified by a licensed New Mexico professional engineer and approved by the New Mexico Environment Department (NMED) prior to its installation.

### Lagoon Design and Site Preparation Requirements:

1. The system shall be certified by a licensed New Mexico professional engineer and approved by NMED prior to installation.
2. Inside slopes shall be a maximum of 3 (horizontal): 1 (vertical), and a minimum of 4 (horizontal); 1 (vertical).
3. Lagoon volume shall be designed to allow for a minimum of 24 inches of freeboard.
4. The liner shall be installed with sufficient liner material to accommodate shrinkage due to temperature changes. Folds in the liner are not acceptable.
5. To a depth of at least six inches below the liner, the sub-grade shall be free of sharp rocks, vegetation and stubble. In addition, liners shall be placed on a sub-grade of sand or fine soil. The surface in contact with the liner shall be smooth to allow for good contact between liner and sub-grade. The surface shall be dry during liner installation.
6. Sub-grade shall be compacted to a minimum of 90% of standard proctor density.
7. The minimum dike width shall be eight feet to allow vehicle traffic for maintenance.
8. The base of the pond shall be as uniform as possible and shall not vary more than three inches from the average finished elevation.
9. Synthetic liners shall be anchored in an anchor trench in the top of the berm. The trench shall be a minimum of 12 inches wide, 12 inches deep and shall be set back at least 24 inches from the inside edge of the berm.
10. If the lagoon is installed over areas of decomposing organic materials or shallow groundwater, a liner vent system shall be installed.
11. Any opening in the liner through which a pipe or other fixture protrudes shall be properly sealed. Liner penetrations shall be detailed in the construction plans and record drawings.
12. A synthetic liner shall not be installed in temperatures below freezing.
13. The liner shall be installed or supervised by an individual that has the necessary training and experience as required by the liner manufacturer.
14. All manufacturer's installation and field seaming guidelines shall be followed.
15. All synthetic liner seams shall be field tested by the installer and verification of the adequacy of the seams shall be submitted to NMED along with the record drawings.
16. Concrete slabs installed on top of the synthetic liner for operational purposes shall be completed in accordance with manufacturer and installer recommendations to ensure liner integrity.

**NEW MEXICO ENVIRONMENT DEPARTMENT  
GROUND WATER QUALITY BUREAU  
MONITORING WELL CONSTRUCTION AND ABANDONMENT GUIDELINES**

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**Purpose:** These guidelines identify minimum construction and abandonment details for installation of water table monitoring wells under groundwater Discharge Permits issued by the NMED's Ground Water Quality Bureau (GWQB) and Abatement Plans approved by the GWQB. Proposed locations of monitoring wells required under Discharge Permits and Abatement Plans and requests to use alternate installation and/or construction methods for water table monitoring wells or other types of monitoring wells (e.g., deep monitoring wells for delineation of vertical extent of contaminants) must be submitted to the GWQB for approval prior to drilling and construction.

**General Drilling Specifications:**

1. All well drilling activities must be performed by an individual with a current and valid well driller license issued by the State of New Mexico in accordance with 19.27.4 NMAC. Use of drillers with environmental well drilling experience and expertise is highly recommended.
2. Drilling methods that allow for accurate determinations of water table locations must be employed. All drill bits, drill rods, and down-hole tools must be thoroughly cleaned immediately prior to the start of drilling. The borehole diameter must be drilled a minimum of 4 inches larger than the casing diameter to allow for the emplacement of sand and sealant.
3. After completion, the well should be allowed to stabilize for a minimum of 12 hours before development is initiated.
4. The well must be developed so that formation water flows freely through the screen and is not turbid, and all sediment and drilling disturbances are removed from the well.

**Well Specifications (see attached monitoring well schematic):**

5. Schedule 40 (or heavier) polyvinyl chloride (PVC) pipe, stainless steel pipe, carbon steel pipe, or pipe of an alternate appropriate material that has been approved for use by NMED must be used as casing. The casing must have an inside diameter not less than 2 inches. The casing material selected for use must be compatible with the anticipated chemistry of the groundwater and appropriate for the contaminants of interest at the facility. The casing material and thickness selected for use must have sufficient collapse strength to withstand the pressure exerted by grouts used as annular seals and thermal properties sufficient to withstand the heat generated by the hydration of cement-based grouts. Casing sections may be joined using welded, threaded, or mechanically locking joints; the method selected must provide sufficient joint strength for the specific well installation. The casing must extend from the top of the screen to at least one foot above ground surface. The top of the casing must be fitted with a removable cap, and the exposed casing must be protected by a locking steel well shroud. The shroud must be large enough in diameter to allow easy access for removal of the cap. Alternatively, monitoring wells may be completed below grade. In this case, the casing must extend from the top of the screen to 6 to 12 inches below the ground surface; the monitoring wells must be sealed with locking, expandable well plugs; a flush-mount, watertight well vault that is rated to withstand traffic loads must be emplaced around the wellhead; and the cover must be secured with at least one bolt. The vault cover must indicate that the wellhead of a monitoring well is contained within the vault.
6. A 20-foot section (maximum) of continuous-slot, machine slotted, or other manufactured PVC or stainless steel well screen or well screen of an alternate appropriate material that has been approved for use by NMED must be installed across the water table. Screens created by cutting slots into solid casing with saws or other tools must not be used. The screen material selected for use must be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the facility. Screen sections may be joined using welded, threaded, or mechanically

- locking joints; the method selected must provide sufficient joint strength for the specific well installation and must not introduce constituents that may reasonably be considered contaminants of interest at the facility. A cap must be attached to the bottom of the well screen; sumps (i.e., casing attached to the bottom of a well screen) should not be installed. The bottom of the screen must be installed no more than 15 feet below the water table; the top of the well screen must be positioned not less than 5 feet above the water table. The well screen slots must be appropriately sized for the formation materials and should be selected to retain 90 percent of the filter pack. A slot size of 0.010 inches is generally adequate for most installations.
7. Casing and well screen must be centered in the borehole by placing centralizers near the top and bottom of the well screen.
  8. A filter pack must be installed around the screen by filling the annular space from the bottom of the screen to 2 feet above the top of the screen with clean silica sand. The filter pack must be properly sized to prevent fine particles in the formation from entering the well; clean medium to coarse silica sand is generally adequate as filter pack material for 0.010-inch slotted well screen. For wells deeper than 30 feet, the sand must be emplaced by a tremmie pipe. The well should be surged or bailed to settle the filter pack and additional sand added, if necessary, before the bentonite seal is emplaced.
  9. A bentonite seal must be constructed immediately above the filter pack by emplacing bentonite chips or pellets (3/8-inch in size or smaller) in a manner that prevents bridging of the chips/pellets in the annular space. The bentonite seal must be 3 feet in thickness and hydrated with clean water. Adequate time should be allowed for expansion of the bentonite seal before installation of the annular space seal.
  10. The annular space above the bentonite seal must be sealed with cement grout or a bentonite-based sealing material acceptable to the State Engineer pursuant to 19.27.4 NMAC. A tremmie pipe must be used when placing sealing materials at depths greater than 20 feet below the ground surface. Annular space seals must extend from the top of the bentonite seal to the ground surface (for wells completed above grade) or to a level 3 to 6 inches below the top of casing (for wells completed below grade).
  11. For monitoring wells finished above grade, a concrete pad (2-foot minimum radius, 4-inch minimum thickness) must be poured around the shroud and wellhead. The concrete and surrounding soil must be sloped to direct rainfall and runoff away from the wellhead. The installation of steel posts around the well shroud and wellhead is recommended for monitoring wells finished above grade to protect the wellhead from damage by vehicles or equipment. For monitoring wells finished below grade, a concrete pad (2-foot minimum radius, 4-inch minimum thickness) must be poured around the well vault and wellhead. The concrete and surrounding soil must be sloped to direct rainfall and runoff away from the well vault.

**Abandonment:**

12. Approval for abandonment of monitoring wells used for ground water monitoring in accordance with Discharge Permit and Abatement Plan requirements must be obtained from NMED prior to abandonment.
13. Well abandonment must be accomplished by removing the well casing and placing neat cement grout, bentonite-based plugging material, or other sealing material approved by the State Engineer for wells that encounter water pursuant to 19.27.4 NMAC from the bottom of the borehole to the ground surface using a tremmie pipe. If the casing cannot be removed, neat cement grout, bentonite-based plugging material, or other sealing material approved by the State Engineer must be placed in the well using a tremmie pipe from the bottom of the well to the ground surface.
14. After abandonment, written notification describing the well abandonment must be submitted to the NMED. Written notification of well abandonment must consist of a copy of the well plugging record submitted to the State Engineer in accordance with 19.27.4 NMAC, or alternate documentation containing the information to be provided in a well plugging record required by the State Engineer as specified in 19.27.4 NMAC.

**Deviation from Monitoring Well Construction and Abandonment Requirements:** Requests to construct water table monitoring wells or other types of monitoring wells for groundwater monitoring under groundwater Discharge Permits or Abatement Plans in a manner that deviates from the specified requirements must be submitted in writing to the GWQB. Each request must state the rationale for the proposed deviation from these requirements and provide detailed evidence supporting the request. The GWQB will approve or deny requests to deviate from these requirements in writing.

**MONITORING WELL SCHEMATIC**

(Not to Scale)

